CLAIMS

1. A game system which generates an image, comprising:

means which transforms a depth value of each pixel of an original image into a second depth value formed of lower bits I to J which are positioned lower than the most significant bit of the depth value;

means which sets an alpha value of each pixel to a value corresponding to the second depth value; and

means which generates an image based on the set alpha value.

2. The game system as defined in claim 1,

wherein the original image is blended with a defocused image of the original image based on the alpha value set for each pixel.

3. The game system as defined in claim 2,

wherein the defocused image of the original image is generated by setting the original image as a texture and shifting texture coordinates of a virtual object when the texture is mapped onto the virtual object by texel interpolation method.

4. The game system as defined in claim 1,

wherein the second depth value is clamped into a given value depending on a bit value other than the bits I to J in the depth value.

5. The game system as defined in claim 1,

wherein the depth value is set as an index number in a lookup table for index color texture-mapping; and

wherein the depth value is transformed into the second depth value by performing index color texture-mapping on a virtual object by using the lookup table.

6. The game system as defined in claim 1, wherein:

bits M to N in the depth value are set as an index number in a first lookup table for index color texture-mapping;

the depth value is transformed into a third depth value by performing index color texture-mapping on a virtual object by using the first lookup table;

bits K to L (where $K \geqq I \geqq L > M \geqq J \geqq N$) in the depth value are set as an index number in a second lookup table for index color texture-mapping;

the depth value is transformed into a fourth depth value by performing index color texture-mapping on a virtual object by using the second lookup table; and

the third and fourth depth values are used to determine the second depth value.

7. A game system which generates an image, comprising:

means which sets bits M to N in given image information as an index number in a first lookup table for index color texture-mapping, and uses the first lookup table to perform index color texture-mapping on a virtual object to transform the image information into third image information;

means which sets bits K to L in the image information as an index number in a second lookup table for index color texture-mapping, and uses the second lookup table to perform index color texture-mapping on a virtual object to transform the image information into fourth image information; and

means which determines second image information formed of the bits I to J (where K $\geqq$ I $\geqq$ L $>$ M $\geqq$ J $\geqq$ N) in the image information based on the third and fourth image information.

8. The game system as defined in claim 5,

wherein the virtual object is a polygon having a size equal to a size of a display screen.

9. The game system as defined in claim 7,

wherein the virtual object is a polygon having a size equal to a size of a display screen.

10. The game system as defined in claim 5,

wherein the virtual object is a polygon having a size equal to a size of a block obtained by dividing a display screen into blocks.

11. The game system as defined in claim 7,

wherein the virtual object is a polygon having a size

equal to a size of a block obtained by dividing a display screen into blocks.

12. A computer-usable program embodied on an information storage medium or in a carrier wave, comprising a processing routine for a computer to realize:

means which transforms a depth value of each pixel of an original image into a second depth value formed of lower bits I to J which are positioned lower than the most significant bit of the depth value;

means which sets an alpha value of each pixel to a value corresponding to the second depth value; and

means which generates an image based on the set alpha value.

13. The program as defined in claim 12,

wherein the original image is blended with a defocused image of the original image based on the alpha value set for each pixel.

14. The program as defined in claim 13,

wherein the defocused image of the original image is generated by setting the original image as a texture and shifting texture coordinates of a virtual object when the texture is mapped onto the virtual object by texel interpolation method.

15. The program as defined in claim 12,

wherein the second depth value is clamped into a given value depending on a bit value other than the bits I to J in the depth value.

16. The program as defined in claim 12,

wherein the depth value is set as an index number in a lookup table for index color texture-mapping; and

wherein the depth value is transformed into the second depth value by performing index color texture-mapping on a virtual object by using the lookup table.

17. The program as defined in claim 12, wherein:

bits M to N in the depth value are set as an index number in a first lookup table for index color texture-mapping;

the depth value is transformed into a third depth value by performing index color texture-mapping on a virtual object by using the first lookup table;

bits K to L (where $K \geqq I \geqq L > M \geqq J \geqq N$) in the depth value are set as an index number in a second lookup table for index color texture-mapping;

the depth value is transformed into a fourth depth value by performing index color texture-mapping on a virtual object by using the second lookup table; and

the third and fourth depth values are used to determine the second depth value.

18. A computer-usable program embodied on an information storage medium or in a carrier wave, comprising a processing routine for a computer to realize:

means which sets bits M to N in given image information as an index number in a first lookup table for index color texture-mapping, and uses the first lookup table to perform index color texture-mapping on a virtual object to transform the image information into third image information;

means which sets bits K to L in the image information as an index number in a second lookup table for index color texture-mapping, and uses the second lookup table to perform index color texture-mapping on a virtual object to transform the image information into fourth image information; and

means which determines second image information formed of the bits I to J (where $K \geqq I \geqq L > M \geqq J \geqq N$) in the image information based on the third and fourth image information.

19. The program as defined in claim 16,

wherein the virtual object is a polygon having a size equal to a size of a display screen.

20. The program as defined in claim 18,

wherein the virtual object is a polygon having a size equal to a size of a display screen.

21. The game system as defined in claim 16,

wherein the virtual object is a polygon having a size

equal to a size of a block obtained by dividing a display screen into blocks.

22. The program as defined in claim 18,

wherein the virtual object is a polygon having a size equal to a size of a block obtained by dividing a display screen into blocks.

23. A method of generating an image, comprising a step of:

transforming a depth value of each pixel of an original image into a second depth value formed of lower bits I to J which are positioned lower than the most significant bit of the depth value;

setting an alpha value of each pixel to a value corresponding to the second depth value; and

generating an image based on the set alpha value.

24. The method as defined in claim 23,

wherein the original image is blended with a defocused image of the original image based on the alpha value set for each pixel.

25. The method as defined in claim 24,

wherein the defocused image of the original image is generated by setting the original image as a texture and shifting texture coordinates of a virtual object when the texture is mapped onto the virtual object by texel interpolation method.

26. The method as defined in claim 23,

wherein the second depth value is clamped into a given value depending on a bit value other than the bits I to J in the depth value.

27. The method as defined in claim 23,

wherein the depth value is set as an index number in a lookup table for index color texture-mapping; and

wherein the depth value is transformed into the second depth value by performing index color texture-mapping on a virtual object by using the lookup table.

28. The method as defined in claim 23, wherein:

bits M to N in the depth value are set as an index number in a first lookup table for index color texture-mapping;

the depth value is transformed into a third depth value by performing index color texture-mapping on a virtual object by using the first lookup table;

bits K to L (where $K \geqq I \geqq L > M \geqq J \geqq N$) in the depth value are set as an index number in a second lookup table for index color texture-mapping;

the depth value is transformed into a fourth depth value by performing index color texture-mapping on a virtual object by using the second lookup table; and

the third and fourth depth values are used to determine the second depth value.

29. A method of generating an image, comprising a step of:

setting bits M to N in given image information as an index number in a first lookup table for index color texture-mapping;

using the first lookup table to perform index color texture-mapping on a virtual object to transform the image information into third image information;

setting bits K to L in the image information as an index number in a second lookup table for index color texture-mapping;

using the second lookup table to perform index color texture-mapping on a virtual object to transform the image information into fourth image information; and

determining second image information formed of the bits I to J (where $K \geqq I \geqq L > M \geqq J \geqq N$) in the image information based on the third and fourth image information.

30. The method as defined in claim 27,

wherein the virtual object is a polygon having a size equal to a size of a display screen.

31. The method as defined in claim 29,

wherein the virtual object is a polygon having a size equal to a size of a display screen.

32. The method as defined in claim 27,

wherein the virtual object is a polygon having a size

equal to a size of a block obtained by dividing a display screen into blocks.

33. The method as defined in claim 29,

wherein the virtual object is a polygon having a size equal to a size of a block obtained by dividing a display screen into blocks.